

HEALTH & SAFETY PLAN (HASP)

**Mushroom Express
33777 Valley Center Rd.
Valley Center, CA. 92082**

Prepared By:

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Section 1 - Emergency Information

Contaminants of Concern: Copper, Lead, Zinc, TPH

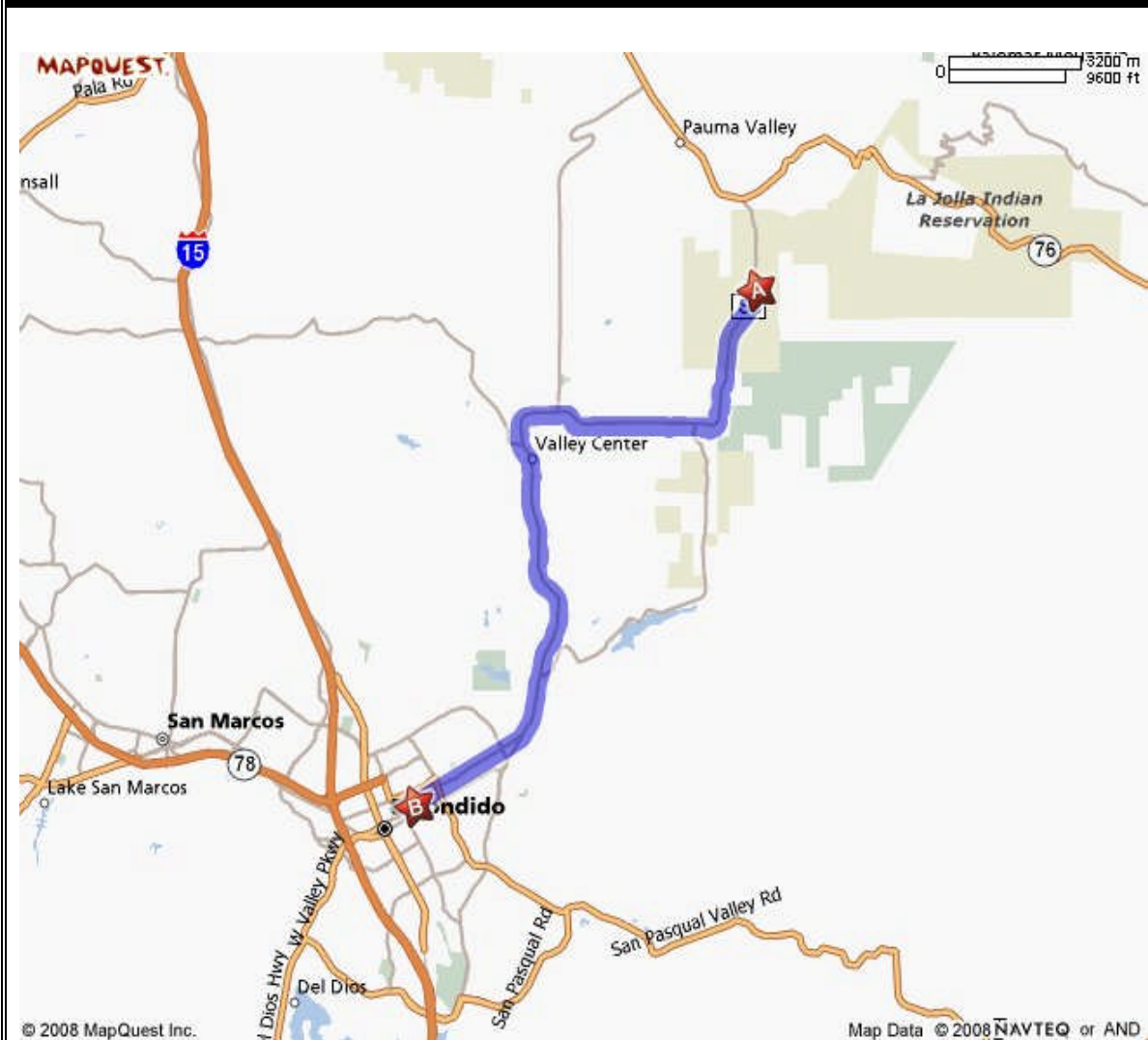
Minimum Level of Protection: Level C

| | |
|---|---|
| Site Location | Mushroom Express 33777 Valley Center Rd. Valley Center, CA. 92082 |
| Contact Information | |
| Neil Frumkin Environmental Recovery Services (ERS) | (562) 427-7277 – Office (562) 788-0829 – Cell |
| Brian Banuelos Environmental Recovery Services (ERS) | (562) 427-7277 – Office (562) 244-0548 - Cell |
| Daniel Diaz Environmental Recovery Services (ERS) | (562) 427-7277 – Office (562) 244-0467 - Cell |
| EMERGENCY PHONE NUMBERS | |
| Fire/Ambulance/Police | 9-1-1 |
| Poison Control: | (800) 876-4766 |
| Hospital: | Palomar Medical Center 555 E. Valley Parkway Escondido, CA. 92025 |

FIRST AID FOR CORROSIVE EMERGENCIES

- Ingestion: DO NOT INDUCE VOMITING. Call Poison Control; follow instructions. Administer CPR, if necessary. Seek medical attention.
- Inhalation: Remove person from contaminated environment. DO NOT ENTER A CONFINED SPACE TO RESCUE SOMEONE WHO HAS BEEN OVERCOME UNLESS PROPERLY EQUIPPED AND A STANDBY PERSON IS PRESENT. Administer CPR if necessary. Seek medical attention.
- Skin Contact: Brush off dry material, remove wet or contaminated clothing. Flush skin thoroughly with water. Seek medical attention if irritation persists. Rescuers/Responders must wear appropriate PPE (as described in Section
- Eye Contact: Flush eyes with water for 15 minutes. Seek medical attention.
- Contingency Plan: Report incident to Project Manager and Health and Safety Manager after emergency procedures have been implemented.

HOSPITAL LOCATION MAP



Hospital Directions:

- 1: Start out going South on Valley Center Rd/CR-S6 toward Omish Road. 15.9 Miles
- 2: Arrive at 555 E. Valley Parkway, Escondido

Hospital Information:

Name - Palomar Medical Center
Address – 555 E. Valley Parkway
City, State – Escondido, CA..
Phone - (760) 739-3000
 (Emergency Room)

Section 2 - Site Description

The site is the former Mushroom Express, 33777 Valley Center Road, Valley Center, CA. Prior to the San Diego wild fires in 2007, the site operated primarily as a mushroom storage and transporter for many years. An automotive repair shop operated on the site as well. The site is approximately 5 acres. A pallet manufacturing company operates on the north side, an automobile impound lot is on the south side of the property. Harrahs Rincon Casino is directly across the highway to the west. On the south side there is approximately 2000 feet of open field ending in a flowing river. There are two residential houses located on the northeast side of the property.

Site activities will consist of:

- Ash, Dirt, Asphalt, Concrete & Debris excavation and removal
- Loading into transfer truck(s)
- Pressure Washing/Triple Rinsing
- Staging and shipping containerized rinse water

Contaminants of concern are dust containing heavy metal contamination (copper, lead & zinc) and TPH. These contaminants of concern generally have limited volatility. Potential routes of exposure will be through inhalation and dermal.

The primary focus of the Health and Safety Plan (HASP) is to prevent injuries to site workers. This HASP will also include measures to reduce or eliminate the possibility of an off-site release of any of the materials being handled.

Section 3 - ORGANIZATIONAL STRUCTURE

This chapter of the Health and Safety Plan describes lines of authority, responsibility, and communication as they pertain to health and safety functions at this site. The purpose of this chapter is to identify the personnel who impact the development and implementation of the site health and safety plan and to describe their roles and responsibilities. This chapter also identifies other contractors and subcontractors involved in work operations and establishes the lines of communication among them for safety and health matters.

The organizational structure of this site's safety and health program is consistent with OSHA requirements in 29 CFR 1910.120(b)(2) and provides the following site-specific information:

- the general supervisor who has the responsibility and authority to direct all hazardous waste operations
- the site safety and health officer who has the responsibility and authority to develop and implement this HASP and verify compliance
- other personnel needed for hazardous waste operations and emergency response and their general functions and responsibilities
- the lines of authority, responsibility, and communication for safety and health functions

This section is reviewed and updated as necessary to reflect the current organizational structure at this site.

3. 1. Roles and Responsibilities

All personnel and visitors on this site must comply with the requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this site are detailed in the following paragraphs. A site organizational chart illustrating the hierarchy of personnel and lines of communication within this company and with additional contractors on site is found in Figure 1-1.

Project Manager (PM)

The Project Manager (PM) for this site is Neil Frumkin. The PM has responsibility and authority to direct all work operations. The PM coordinates safety and health functions with the Site Safety and Health Officer (SSHO), has the authority to oversee and monitor the performance of the SSHO, and bears ultimate responsibility for the proper implementation of this HASP. The specific duties of the PM are:

- Preparing and coordinating the site work plan; providing site supervisor(s) with work assignments and overseeing their performance.
- Coordinating safety and health efforts with the SSHO; ensuring effective emergency response through coordination with the Emergency Response Coordinator (ERC);
- Serving as primary site liaison with public agencies and officials and site contractors.
- The qualified alternate Project Manager (PM) for this site is Walter Vargas.

Site Safety and Health Officer (SSHO)

The Site Safety and Health Officer (SSHO) for this site is Daniel Diaz. The SSHO has full responsibility and authority to develop and implement this HASP and to verify compliance. The SSHO reports to the Project Manager. The SSHO is on site or readily accessible to the site during all work operations and has the authority to halt site work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

- Managing the safety and health functions on this site; serving as the site's point of contact for safety and health matters;

- Ensuring site monitoring, worker training, and effective selection and use of PPE; assessing site conditions for unsafe acts and conditions and providing corrective action; assisting the preparation and review of this HASP; maintaining effective safety and health records as described in this HASP; coordinating with the Emergency Response Coordinator (ERC), Site Supervisor(s), and others as necessary for safety and health efforts.
- The qualified alternate Site Safety and Health Officer (SSHO) for this site is Brian Banuelos.

Emergency Response Coordinator (ERC)

The Emergency Response Coordinator (ERC) for this site is Neil Frumkin. The ERC is responsible for assessing site conditions and directing and controlling emergency response activities in accordance with the Site Emergency Response Plan. The ERC reports to the Project Manager (PM). The ERC will ensure the evacuation, emergency transport, and treatment of site personnel and will notify the appropriate emergency response units and management staff in accordance with the emergency response plan of this HASP. Specific duties of the ERC include:

- Developing and reviewing the emergency response plan; conducting emergency response rehearsals; ensuring effective emergency response to and evacuation of the site; coordinating emergency response functions with the Site Safety and Health Officer (SSHO), and integrating site emergency response plans with the disaster, fire, and/or emergency response plans of local, state, and federal organizations and agencies.
- The qualified alternate Emergency Response Coordinator (ERC) for this site is Brian Banuelos. The qualified second alternates for Emergency Response Coordinator (ERC) for this site is Daniel Diaz.

Site Supervisor

The Site Supervisor for this site is Brian Banuelos. The Site Supervisor is responsible for field operations and reports to the Project Manager (PM). The Site Supervisor ensures the implementation of the HASP requirements and procedures in the field. The specific responsibilities of the Site Supervisor are:

- Executing the work plan and schedule as detailed by the PM; coordination with the Site Safety and Health Officer (SSHO) on safety and health; ensuring site work compliance with the requirements of this HASP.

Site Workers

Site workers are responsible for complying with this HASP, using the proper PPE, reporting unsafe acts and conditions, and following the work and safety and health instructions of the Project Manager (PM), Site Safety and Health Officer (SSHO), and Site Supervisor.

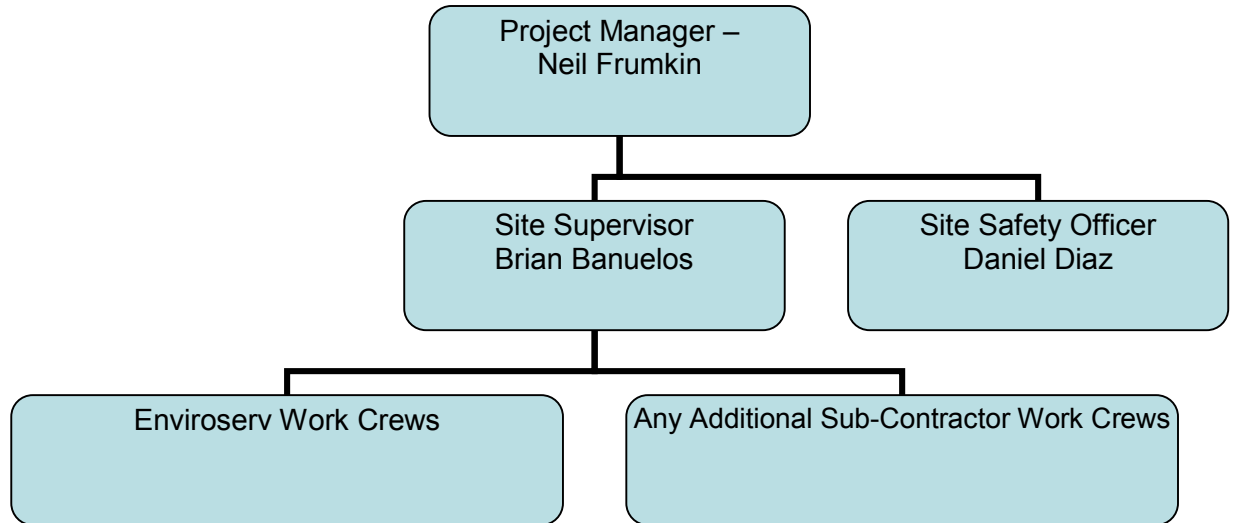
3. 2. Identification of Other Site Contractor and Sub-Contractors

No additional contractors or sub-contractors are planned for this project. If other contractors and subcontractors do perform work on this site, they will be listed in the table below. Safety and health lines of communication with these contractors are illustrated in Figure 1-1.

| Company | Function |
|---|--|
| Ecology Control Ind. (ECI), Patriot Environmental, West Coast | General Contracting, Field Tech Support, Transportation |

3. 3. Organization Chart

Figure 1-1 Organizational Chart (available on site)



3. 4. Mushroom Express Site Map

Insert site map here, showing control zones, key work locations, fire-safe areas for hot work, Locations of emergency equipment and supplies and other relevant information

Section 4 - Job Hazard Analysis

This chapter of the HASP describes the safety and health hazards associated with site work and the control measures selected to protect workers. The purpose of a job hazard analysis (JHA) is to identify the health and safety hazards associated with each site task and operation, and to evaluate the risks to workers. Using this information, appropriate control methods are selected to eliminate or control the identified risks.

The persons responsible for ongoing job hazard analysis at this site are Neil Frumkin and/or Brian Banuelos.

4. 1. Job Hazard Analysis

Each site-specific JHA appears as a separate table below. Each JHA lists a task or operation required during site clean-up and the location(s) where that task or operation is performed. A single JHA may be used for a task/operation performed in multiple locations if the hazards, potential exposures, and controls are the same in each location.

Each JHA lists the chemical hazards associated with that task and their known or anticipated airborne concentrations during performance of the task. Each JHA also identifies anticipated physical and biological hazards and potential exposure levels or the likelihood of exposure. The final section of each JHA lists the control measures implemented to protect employees from exposure to the identified hazards. The information provided here is designed to satisfy the job hazard analysis requirements of 1910.120(b)(4)(ii)(A) and the workplace hazard assessment requirements of 1910.132(d).

Health hazard information for all chemical substance identified in site JHAs appears in hazard data sheets attached to this chapter. The primary chemicals of concern are:

- Copper, Lead, Zinc & TPH

These chemical substances were identified through preliminary sampling as well as from typical operations at an industrial plating facility. This list will be updated and sampling methods and PPE recommendations will be revised, if necessary.

Neil Frumkin will modify site-specific JHAs and the accompanying data sheets when:

- the scope of work is changed by adding, eliminating, or modifying tasks
- new methods of performing site tasks are selected
- observation of the performance of site tasks results in a revised characterization of the hazards
- new chemical, biological, or physical hazards are identified
- exposure data indicate changes in the concentration and/or likelihood of exposure
- new/different control measures are selected

When JHAs are modified, related provisions in other chapters of this HASP are modified as needed.

4. 2. Employee Notification of Hazards and Overall Site Information Program

The information in the JHAs and the attached data sheets is made available to all employees who could be affected. The person responsible for providing site information, this HASP, and any modifications to the HASP to other contractors and subcontractors working on this site is: Neil Frumkin. Modifications to JHAs and the accompanying data sheets are communicated during routine briefings.

Consistent with paragraph (i) of HAZWOPER, other contractors and subcontractors will be informed about the nature and level of hazardous substances at this site, and the likely degree of exposure to workers who participate in site activities, prior to the time they begin their work activities.

Chemical Hazards

| Chemical Name | PEL (8-hour TWA) | Health Hazards |
|---------------|------------------------|---|
| Oil | 5 mg/m ³ | Slightly hazardous in case of eye contact (irritant), of ingestion. Non-irritant for skin. Non-hazardous in case of inhalation. |
| Copper | 1.0 mg/m ³ | Irritate eyes, nose, pharynx; Nasal perforation; metallic taste; lung, liver, kidney damage; anemia |
| Lead | 0.05 mg/m ³ | Weak, lassitude, insomnia; facial pallor; anorexia, weight loss, malnutrition, constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritate eyes; hypotension |
| Zinc | 5 mg/m ³ | Skin, lung granulomas; irritate skin, mucous membrane; X-ray evidence of retention in lungs |

Potential Physical Hazards and Required Control Measures

| POTENTIAL PHYSICAL HAZARD | REQUIRED CONTROL MEASURE(S) |
|---------------------------|---|
| Objects striking head | Hard hats will be worn during construction, maintenance, and heavy equipment operations. When there is a potential for overhead hazards, hard hats will be worn. |
| | Safety glasses and/or face shields will be worn during construction, maintenance, and sampling activities. When there is a potential for flying projectiles, such as hand tools, safety glasses will be worn. |
| Foot hazards | Steel-toed boots will be worn at all times while on-site. |
| Heat afflictions | Observe work/rest cycles for measured temperature conditions and follow heat stress prevention measures. |

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| <p>Mechanical systems and moving equipment</p> | <p>All cleaning, repairing, and servicing of machines and equipment will be conducted in accordance with Title 8, California Code of Regulations (CCR), Sections 3314 and 3328 and applicable Federal Occupational Safety and Health Administration (OSHA) regulations. Machine guards will be used where appropriate to provide maximum protection for field employees. Access to areas where moving machines and machines with moving parts are located will be controlled and limited to those individuals experienced with those machines or who have received proper safety instruction with respect to the machinery. All major installations or major repair to mechanical systems will be conducted only by a qualified mechanical contractor. Only qualified personnel will make minor adjustments to those systems with prior approval by the Project Manager. Copies of the applicable operation and maintenance manual and manufacturer's operations manuals will be available on-site at all times.</p> <p>Loose, ragged, or poorly fitted clothing, dangling jewelry, or rings will not be worn when working around equipment or machinery. Any of these items could become snagged in moving equipment and result in serious injury. All long hair will be contained to prevent it from getting caught in moving equipment.</p> <p>Air compressors and pumps are started automatically under some conditions. This equipment will be electrically disconnected and locked out before service or repair.</p> |
| <p>Equipment failure</p> | <p>All equipment will be inspected and tested before use, and will be maintained in accordance with manufacturer's specifications. Malfunctioning equipment will be tagged and locked until repairs are made.</p> |

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| Fire | Open fires and smoking are prohibited. Instrumentation used in hazardous areas will be rated intrinsically safe for Class I atmospheres. Inspect fire extinguishers daily before work begins. |
| Noise | Hearing protection will be used as necessary. In general, if a normal conversation cannot be heard, hearing protection is required. If deemed appropriate, the SSO may perform noise level or audio dosimetry testing to determine if noise levels are excessive. Equipment should be maintained so that noise levels are minimized. Avoid high noise levels whenever possible. When high noise levels are unavoidable, such as during heavy equipment operations, wear hearing protection. Take special care when wearing hearing protection around drill rigs and other equipment and in high traffic areas as the ability to verbally communicate a warning is minimized. Maintain visual contact with co-workers. |
| Thermal burns | Use personal protective equipment (PPE) to protect skin from heated equipment surfaces on equipment. Label hot surfaces that can cause thermal burns. |
| Construction debris | Miscellaneous obstacles may be present at various site locations. Field employees will be aware of objects underfoot, particularly when walking in grassy areas. |
| Slips, trips, falls | Minimize the potential for slips, trips, and falls by providing clear footing, clearly identifying any tripping hazards, and maintaining awareness of uneven terrain. |
| Excavation | No entry into any excavation is allowed under this HSP. Excavations will be conducted using proper shoring or sloping in accordance with CAL/OSHA Regulations, Title 8, California Code of Regulations (CCR), Sections 1523, 1539 through 1543, and 5156 and 5192 and applicable federal OSHA regulations. Do not stand adjacent (i.e., within 2 feet) to any unshored or unsloped excavation. |

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| Confined space entry | Confined space operations are not anticipated for this site. Confined space operations require the use of the Confined Space Entry Permit and Observer Checklist. No confined space entry will occur without written authorization of the Health & Safety Director. |
| Underground utility lines | Contact an underground service alert service before excavating to avoid utility line contact. |
| Electrical | Electric work is not anticipated for this site. Any electrical work on 120-volt or greater power circuits will be performed by a licensed electrical contractor. Qualified personnel may perform testing of power circuits and modifications to control circuits with prior approval from the Project Manager. Only personnel familiar with the particular system may work on that system. All electrical work will be conducted in accordance with Title 8, CCR, Subchapter 5, Electrical Safety Orders and applicable OSHA regulations. |
| Heavy equipment operation | Seat belts will be provided on all equipment and employees using such equipment will be instructed in their use. All equipment will be equipped with the proper roll-over protection. The rated capacity of the equipment will be readily visible. Only individuals trained in safe operation and authorized by the employer may operate such equipment (Title 8, CCR, Sections 3653, 3660, and 3664). All subcontractors who operate heavy equipment will provide proof of current applicable certification/license. |
| Excavating equipment | Do not approach excavating equipment or the excavation without first notifying the equipment operator of intent to do so. Make direct eye contact with the operator. Do not assume the operator sees you. Any person entering the excavating equipment work area will wear an orange safety vest. Do not stand alongside, behind, or in the operating area of any operating excavating equipment. Be aware of the tail and boom swing-radius of trackhoes, cranes, and other center pivoting equipment. Also be aware of pinch points on articulated equipment such as front-end loaders. |
| Vehicles | All vehicles will be parked away from operating excavating equipment areas unless necessary to load or unload equipment or samples. No vehicle will enter any operating excavating equipment area without first notifying all excavating equipment operators. Any vehicles in the operating excavating equipment area will have a suitable warning flag or strobe attached to the vehicle. |

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| Overhead utility lines | Maintain a minimum of 10 feet of clearance between any field equipment and high voltage lines; lines carrying more than 50,000 volts require additional clearance; electrical arc hazard is increased during high humidity or rainy conditions. |
| Manual lifting | During any manual material handling tasks, personnel are to lift with the force of the load suspended on their legs and not their backs. Several persons may be needed to lift or handle heavy equipment. |
| Weather conditions | Severe thunderstorms, lightning, and local flooding may occur during the rainy season. In case of severe weather, halt all operations and move indoors or into the cab of a truck as soon as possible. Avoid ravines and small arroyos due to the possibility of flooding during heavy rainfall. If there is lightning activity in the vicinity, the SSO at the site will decide when to halt site activities. A rule of thumb is to halt site activities if ground-to-air lightning is present within 1 mile of the site. To gauge the proximity of lightning, count the number of seconds between the lightning strike and the sound of thunder. A span of approximately 7 seconds indicates a 1-mile distance. |
| Compressed gas cylinders | Such vessels will be secured and used with the manufacturer's recommended valves and fittings. Unused cylinders will be secured and capped. All cylinders will be identified or labeled. |
| Vehicle traffic | When conducting field activities in roads, streets, and parking lots, mark the area with safety cones, wear orange traffic vests, and turn on the vehicle's emergency flashers. Safety cones should taper gradually and allow cars to change lanes or merge easily. Safety cones should extend past the work area. One field employee should act as an observer and watch the traffic and act as a buddy to the other field employee. |

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| Shoring of Excavations | No personnel are allowed to enter any excavation greater than four feet at any time. An H&S permit from CAL/OSHA is required when personnel enter an excavation or trench five feet deep or greater. Only a competent and adequately trained inspector will perform excavation and trenching activities. All excavation, trenching and shoring activities will be performed according to subcontractor Standard Operating Procedures. Evaluation of any excavation by E&A's supervising competent person may require installation of positive retention shoring devices, each excavation will be evaluated throughout its construction and duration for need of such retention devices. |
|------------------------|---|

Section 5 - Site Control

This site control program is designed to reduce the spread of hazardous substances from contaminated areas to clean areas, to identify and isolate contaminated areas of the site, to facilitate emergency evacuation and medical care, to prevent unauthorized entry to the site, and to deter vandalism and theft.

The site control program includes the elements specified in 29 CFR 1910.120(d) and provides the following site-specific information:

- a site map, indicating site perimeter and work zones
- site access procedures
- site security
- site work zones including standard operating procedures
- use of the buddy system
- both internal (on-site) and external communications

Neil Frumkin is responsible for evaluating site conditions and for verifying that the site control program functions effectively. The site control program is updated regularly to reflect current site conditions, work operations, and procedures.

5. 1. Site Map

A map of this site, showing site boundaries, designated work zones, and points of entry and exit is provided in Section 3-4 (available on site).

5. 2. Site Access

Access to this site is restricted to reduce the potential for exposure to its safety and health hazards. During hours of site operation, site entry and exit is authorized only at the point(s) identified in Figure 3-1. Entry and exit at these points is controlled by fencing. When the site is not operating, access to the site is controlled by a security contractor.

Visitors to the site register with Neil Frumkin, Brian Banuelos, and/or Walter Vargas and are escorted at all times. Visitors are expected to comply with the requirements of this HASP. Visitors who want to enter contaminated areas of the site must provide documentation that they have the required training and medical evaluation and must receive a site-specific briefing about protecting themselves from site hazards, recognizing site zones demarcations, and following emergency evacuation procedures. PPE for visitors is provided by Neil Frumkin.

5. 3. Site Security

Security at this site is maintained during both working hours and non-working hours to prevent unauthorized entry; removal of contaminated material from the exclusion zone; exposure of unauthorized, unprotected people to site hazards; and increased hazards due to vandalism and theft.

Neil Frumkin is responsible for establishing and maintaining site security during working hours. This site takes the following measures for security during working hours:

- Security is maintained in the Support Zone and at Access Control Points to ensure only authorized entrants access the site.
- A fence or other physical barrier is erected around the perimeter of the site to prevent unauthorized entry or exit.
- Signs have been posted around the perimeter of the site to warn of the site dangers and prohibition of unauthorized entry.

Marvin Donius is responsible for establishing and maintaining site security during non-working hours.

The following measures have been taken for security during non-working hours:

- All doors to buildings and/or trailers are locked and equipment is secured after working hours.

5. 4. Site Work Zones

This site is divided into three (3) major zones, described below and shown in Figure 3-1. These zones are characterized by presence or absence of biological and chemical hazards and the activities performed within them. Zone boundaries are clearly marked at all times and the flow of personnel among the zones is controlled. The site is monitored for changing conditions that may warrant adjustment of zone boundaries. Zone boundaries are adjusted as necessary to protect personnel and clean areas. Whenever boundaries are adjusted, zone markings are also changed and workers are immediately notified of the change.

The following criteria were considered in establishing the site work zones:

- Required clean-up activities.
- Sampling results for air and surface contaminants.
- Potential for fire.
- Physical, chemical, toxicological, and other characteristics of substances present.
- Physical and topographical features of the site.
- Weather conditions, particularly the direction of prevailing winds relative to the locations of the support zone and other uncontaminated areas onsite.

Exclusion Zone

The Exclusion Zone is the area where hazardous substance is known or suspected to be present and pose the greatest potential for exposure. Remediation operations (site clean-up) are performed in the Exclusion Zone. At this site, the Exclusion Zone boundaries are marked with yellow boundary tape. Personnel and equipment will enter and exit the Exclusion Zone from the designated access points in the Contamination Reduction Zone (CRZ), shown in Figure 3-1.

Personnel in the Exclusion Zone will adhere to the following SOPs:

Exclusion Zone (ExZ) SOPs

- While working in the Exclusion Zone, site workers use the buddy system.
- Use monitoring equipment and tools that are safe for the working environment.
- Use ground-fault circuit interrupters (GFCIs) when necessary to prevent electric shock.
- Use three-wire grounded extension cords for portable electric tools and appliances.
- Keep loose-fitting clothing or loose long hair away from moving machinery.
- Use signaling to direct heavy equipment operating in tight quarters.
- No refueling engines while equipment is running. No refueling engines while equipment is running.
- No ignition sources within 50 feet of refueling areas.
- Lower all blades and buckets to the ground and set parking brakes before shutting off vehicles.
- Never exceed the rated load capacity of a vehicle.
- Check in and out of this zone at the designated access point(s).
- Use the buddy system at all times.
- Wear the PPE required for this zone (see PPE section of this HASP).
- Perform air monitoring as required for this zone (see Exposure Monitoring section of this HASP).

- No smoking, eating, or drinking.
- No matches, lighters, or open flame.
- Monitor self and buddy for signs of heat or cold stress or chemical overexposure.
- Alert supervisor to signs of changing or unanticipated hazards.
- No horseplay.
- Monitor self and buddy for PPE rips, tears, and/or damage.

Contamination Reduction Zone (CRZ)

The CRZ is located between the Exclusion Zone and the Support Zone (clean zone). Its primary purpose is for decontamination of workers and equipment. The CRZ also serves as a buffer between the Exclusion Zone and Support Zone, to limit the potential for contamination to spread to the Support Zone and outlying areas. At this site, the CRZ boundaries are marked with yellow Boundary Tape.

Based on monitoring results, the CRZ boundaries may be adjusted to ensure that the Support Zone remains uncontaminated. Workers and equipment exit the Exclusion Zone through the designated access point(s) into the CRZ. Workers and equipment are then decontaminated in the CRZ, according to the procedures specified in the Decontamination section of this HASP. Workers and equipment then exit the CRZ into the Support Zone through the designated access points, shown in Figure 3-1.

If necessary, emergency decontamination procedures are implemented. Emergency decontamination procedures are described in the site's emergency response program.

Personnel in the CRZ will adhere to the following SOPs:

Contamination Reduction Zone (CRZ) SOPs

- Check in and out of this zone at the designated access point(s).
- Wear the PPE required for this zone (see PPE section of this HASP).
- Perform air and surface sampling as required for this zone (see Exposure Monitoring section of this HASP).
- Use monitoring equipment and tools that are safe for the working environment.
- No smoking, eating, or drinking.
- No matches, lighters, or open flame.
- Monitor self and buddy for signs of heat or cold stress or chemical overexposure.
- Alert supervisor to signs of changing or unanticipated hazards.
- No horseplay.

In addition, site personnel are trained to recognize and use hand signals when visual contact is possible but noise or PPE can inhibit voice communication. These hand signals are listed below in Table 3-6

Support Zone

The Support Zone is the clean area of the site, beyond the outer boundary of the CRZ. Administrative, clerical, and other support functions are based in the Support Zone. There should be no contamination in the Support Zone. Air and surface monitoring are conducted in the Support Zone as needed to ensure that it remains uncontaminated. If contamination is detected, zone boundaries are adjusted until corrective action is taken and monitoring results indicate that this zone is again uncontaminated.

The Support Zone is shown in Figure 3-1 and its boundaries are marked by Yellow Boundary Tape. While working Within the Support Zone, personnel will adhere to the following SOPs

Support Zone (SZ) SOPs

- Alert supervisor to signs of changing or unanticipated hazards. No horseplay. Perform air and surface sampling as required for this zone (see Exposure Monitoring section of this HASP).

Figure 3-1 Map of Site Boundaries, Work Zones, and Entry/Exit Points (available on site)

5. 5. Emergency Medical Assistance

The nearest emergency medical assistance selected to support this site is:

| Address/Location: | Organization: | Telephone: |
|---|------------------------|----------------------------------|
| 555 E. Valley Parkway Escondido, CA. | Palomar Medical Center | 760-739-3000 (Emergency Room) |

A map to this facility is located in Section 1 – Emergency Information (page 5).

5. 6. Site Communications

The following communication equipment is used to support on-site communications:

- Two-way radios are available
- Nextel 2 Way Phones

A current list of emergency contact numbers is posted in the Command Area.

Hand Signals

| Signal | Meaning |
|---|------------------------------|
| Thumbs down | No |
| Both arms waving upright above head | Need assistance/send support |
| Stand with hands on waist or grab partner's wrist | Exit immediately |
| One fist raised above head | Stop immediately |
| Arms horizontal and circling out to sides | Situation under control |
| | |

5. 7. Buddy System

While working in the Exclusion Zone, site workers use the buddy system. The buddy system means that personnel work in pairs

The responsibilities of workers using the buddy system include:

- Remaining in close visual contact with partner
- periodically checking the integrity of partner's PPE,
- Observing partner for signs of heat stress or other difficulties,
- Providing partner with assistance as needed or requested,

Section 6 - Training

The site training program is designed to ensure that workers receive the training they need to work safely on this site. Site safety and health training requirements are based on the job hazard assessments contained in Chapter 2 of this HASP and relevant OSHA requirements. At this site, Brian Banuelos and Neil Frumkin will oversee the implementation of this training program and is responsible for ensuring that employees are adequately and currently trained for all tasks they are asked to perform. Employees who have not been trained to a level required by their job function and responsibility are not permitted to participate in or supervise field activities.

This training program is consistent with the requirements of 29 CFR 1910.120(e) and addresses the following site-specific information:

- Training For Site Workers
- Site Briefings For Visitors And Workers
- Initial Hazwoper Training (40 Or 24 Hr)
- Supervised Field Experience
- Management And Supervisor Training
- Qualification Of Trainers
- Training Certification
- Emergency Response Training
- Refresher Training
- Equivalent Training
- Training Records
- Emergency Response Training Is Addressed In Hasp Chapter 11, Emergency Response Plan.

6. 1. Training Elements to be covered for Site Workers:

- Names Of Personnel And Alternates Responsible For Site Safety And Health
- Safety, Health And Other Hazards Present On The Site
- Use Of PPE
- Work Practices By Which The Employee Can Minimize Risks From Hazards
- Safe Use Of Engineering Controls And Equipment On The Site
- Medical Surveillance Requirements Detailed In Chapter 5 Of This Hasp
- Decontamination Procedures Detailed In Chapter 10 Of This Hasp
- The Emergency Response Plan Detailed In Chapter 11 Of This Hasp
- Confined Space Entry Procedures Detailed In Chapter 13 Of This Hasp
- The Spill Containment Program Detailed In Chapter 9 Of This Hasp
- The Site Control Plan Detailed In Chapter 3 Of This Hasp

Respirator use, in accordance with 29 CFR 1910.134 is required in addition to the elements described above

6. 2. Site-Specific Briefings for Visitors

A site-specific briefing is provided to all site visitors who enter this site beyond the site entry point. For visitors, the site-specific briefing provides information about site hazards, the site lay-out including work zones and places of refuge, the emergency alarm system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

6. 3. HASP Information and Site-Specific Briefings for Workers

Site personnel review this HASP and are provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with this HASP and the information and requirements it contains. Additional briefings are provided as necessary to notify employees of any changes to this HASP because of information gathered during ongoing site characterization and analysis. Conditions for which we schedule additional briefings include, but are not limited to: changes in site conditions, changes in the work schedule/plan, newly discovered hazards, and incidents occurring during site work.

6. 4. Initial Training

Initial training requirements are based on a worker's potential for exposure and compliance with the requirements of 29 CFR 1910.120(e)(3). Personnel at this site must successfully complete 40-hour initial HAZWOPER training consistent with the requirements of 29 CFR 1910.120(e)(3)(i) in order to work in contaminated areas. In addition, such personnel provide documentation of training.

6. 5. Management and Supervisor Training

On-site managers and supervisors who are directly responsible for or who supervise workers engaged in hazardous waste operations receive, in addition to the appropriate level of worker HAZWOPER training described above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4). Training received by managers and supervisors includes information regarding the Employer's safety and health programs well as the Spill containment program

6. 6. Qualification of Trainers

Only instructors qualified in accordance with 29 CFR 1910.120(e)(5) are used to train workers for this site. Qualified instructors have either completed a training program for teaching the subjects they are expected to teach or have the academic credentials and instructional experience necessary for teaching the subjects.

6. 7. Training Certification

Employees and supervisors that receive and complete the necessary training and field experience are certified when they complete the necessary training. A written certificate is given to each person so certified. Any person who has not been so certified or who does not meet the requirements of equivalent training is prohibited from engaging in hazardous waste operations on this site.

6. 8. Emergency Response

Emergency response training is addressed in Chapter 11 of this HASP, Emergency Response Plan.

6. 9. Refresher Training

All workers on this site including managers and supervisors receive annual HAZWOPER refresher training consistent with the requirements of 29 CFR 1910.120(e)(8). The following topics (at a minimum) will be addressed:

- Review of chemical hazards
- Review of physical hazards
- Review of PPE including levels of protection
- Review of respiratory protection
- Review of safety procedures
- Review of emergency response procedures

6. 10. Equivalent Training

This site accepts prior academic training or job site experience in lieu of HAZWOPER initial training for workers and supervisors, described in paragraphs (e)(1)-(e)(4) of the standard. In accordance with HAZWOPER (e)(9), Enviroserv certifies that all workers have appropriate training and will provide a copy of that certification to the worker upon request.

6. 11. Training Records

Enviroserv maintains written certification of the successful completion of applicable training requirements for each Enviroserv worker. Training records are maintained up-to-date and are retained onsite at the Command Area/ Support Zone.

An employee sign off sheet indicating that each worker has reviewed a copy of this HASP and understands its contents are stored at the same location.

Section 7 - Medical Surveillance Requirements

The medical surveillance section of the Health and Safety Plan describes how worker health status is monitored at this site. Medical surveillance is used when there is the potential for worker exposure to hazardous substance at levels above OSHA permissible exposure limits or other published limits. The purpose of a medical surveillance program is to medically monitor worker health to ensure that personnel are not adversely affected by site hazards. The provisions for medical surveillance at this site are based on the site characterization and job hazard analysis found in Section 4 of this HASP and are consistent with OSHA requirements in 29 CFR 1910.120(f).

The persons with responsibility for ensuring this program is implemented and maintained are Brian Banuelos and Neil Frumkin.

7. 1. Site Medical Surveillance Program

Medical surveillance requirements are based on a worker's potential for exposure as determined by the site characterization and job hazard analysis documented in Section 4 of this HASP and on compliance with the requirements of 29 CFR 1910.120(f)(2). Based on the potential for worker exposure to hazardous substance or health hazards at this site, the medical surveillance program at this site contains the following provisions:

- All personnel who enter contaminated areas of this site are covered by the medical surveillance program. In addition, all workers assigned to tasks requiring the use of respirators receive medical examinations in accordance with 29 CFR 1910.134(e) to ensure they are physically capable to perform the work and use the equipment.
- All medical examinations and procedures are performed by or under the supervision of a licensed physician and are provided to workers free of cost, without loss of pay, and at a reasonable time and place.

7. 2. Communication between the Site, Physicians, and Workers

The medical facility providing medical monitoring and overexposure examinations required by personnel at this site

Name: Memorial Occupational Medical Services (Long Beach Memorial Medical Center)

Location: 2600 Redondo Ave., Fifth Floor, Long Beach, CA. 90806

Phone: (562) 933-0085

The site has provided information about typical site hazards and potential exposure levels, work activities, and PPE requirements, and other information as required by OSHA in 29 CFR 1910.120(f)(6) to the above-mentioned facility. The site will also make this information available to site personnel and/or their personal physicians as needed.

7. 3. Medical Recordkeeping Procedures

Enviroserv Corporate medical recordkeeping procedures are consistent with the requirements of 29 CFR 1910.1020 and are described in the company's overall safety and health program. A copy of that program is available at Enviroserve Main Office.

The following items are maintained in worker medical records:

- Physician's medical opinion of fitness for respirator protection (pre-placement, periodic)
- Exposure monitoring results

Records required under this medical surveillance program, consistent with 1910.120(f)(8), are kept accurate and updated and are available on site at Command Area.

7. 4. Program Review

Every year, the medical program is reviewed to ensure its effectiveness. The Enviroserv Corporate Health and Safety Officer is responsible for this review. At a minimum, this review consists of:

- Review of accident and injury records and medical records to determine whether the causes of accidents and illness are promptly investigated and whether corrective measures are taken wherever possible,
- Evaluation of the appropriateness of required medical tests on the basis of site exposures, and
- Review of emergency treatment procedures and emergency contacts list to ensure they are site-specific, effective, and current.

Section 8 - Personal Protective Equipment

This chapter of the HASP describes how personal protective equipment (PPE) is used to protect against employee exposures to hazardous substances and hazardous conditions on this site. Exposure hazards from the decontamination process are also considered.

The persons with the overall responsibility for the PPE program are Neil Frumkin, Brian Banulos and/or Walter Vargas.

8. 1. PPE Assignments

Pending air monitoring results, the following assignments have been made)

Lab Packing

Workers will wear Level D chemically protective clothing when lab packing. This will consist of sturdy work shoes, disposable coated tyvek-type coverall with integral boots, surgical type nitrile gloves and safety glasses.

Hazard Categorization:

Workers will wear Level C chemically protective clothing when Hazcatting including a 1/2 face Air Purifying Respirator (APR) with a multi-purpose vapor/particulate cartridge, similar to the Scott 7422-SDI cartridge. Attire will consist of sturdy work shoes, disposable, coated tyvek-type coverall with integral boots, surgical type nitrile gloves and safety glasses. When working with corrosive liquids, workers will wear a face shield over goggles, rather than safety glasses.

Chemical Bulking/Containerization:

Workers will wear Level C chemically protective clothing when bulking or containerizing chemicals including a 1/2 face Air Purifying Respirator (APR) with a multi-purpose vapor/particulate cartridge, similar to the Scott 7422-SDI cartridge. Attire will consist of sturdy work shoes, disposable, coated tyvek-type coverall with integral boots, surgical type nitrile gloves and safety goggles. When working with corrosive liquids, workers will wear chemically resistant over-boots, chemically resistant gloves, and a splash apron over their tyvek suit and a face shield over goggles, rather than safety glasses.

Equipment Removal/Interior Demolition:

Workers will wear Level C chemically protective clothing when removing equipment and conducting limited demolition activities, including a 1/2 face Air Purifying Respirator (APR) with a multi-purpose vapor/particulate cartridge, similar to the Scott 7422-SDI cartridge. Attire will consist of sturdy work shoes, disposable, coated tyvek-type coverall with integral boots, leather work gloves over surgical type nitrile gloves and safety glasses. When working with corrosive liquids, workers will wear a face shield over goggles, rather than safety glasses.

Container Staging/ Loading/ Shipping:

Workers will wear Level D chemically protective clothing when handling chemical containers. This will consist of sturdy work shoes, disposable coated tyvek-type coverall with integral boots, surgical type nitrile gloves and safety glasses.

8. 2. PPE Selection Criteria

Site safety and health hazards are eliminated or reduced to the greatest extent possible through engineering controls and work practices. Where hazards are still present, a combination of engineering controls, work practices, and PPE are used to protect employees.

An initial level of PPE is assigned to each task to provide an adequate barrier to exposure hazards. Initial PPE ensembles are selected based on the anticipated route(s) of entry of the hazardous substances on site and their concentration. Ensemble materials are selected using permeation data supplied by individual manufacturers. Materials providing the greatest duration of protection have been

chosen. Tear and seam strength of the PPE are also considered to ensure ensemble durability while work is performed. When necessary, multiple layers of protection are used to accommodate the range of hazards that may be encountered. Where possible, employees are provided with a range of component sizes to ensure properly fitted PPE.

The following criteria are used in selecting PPE levels at this site.

Use of Level B Protection

Employees use Level B protection during tasks that have or potentially have the following characteristics:

- The identity and concentration of site contaminants are known and a high degree of respiratory protection is needed.
- The atmosphere contains hazardous substances at concentrations exceeding the published exposure limit for which there is no available cartridge/canister.
- The atmosphere contains hazardous substances at concentrations which exceed the use limits (rating or maximum use factor) of the available air purifying respiratory protection.
- Contact with hazardous substances is likely, but the contaminants do not pose a skin absorption hazard.
- The atmosphere contains less than 19.5 percent oxygen.
- The atmosphere contains incompletely identified hazardous substances, but the presence of high levels of chemicals harmful to/capable of being absorbed through the skin is unlikely.
- The atmospheres contain IDLH concentrations of specific substances that present severe inhalation hazards but do not pose a skin absorption hazard.

Use of Level C Protection

Employees use Level C protection during tasks that have or potentially have the following characteristics:

- Liquid splashes, atmospheric conditions, or other direct contact with hazardous substances exist or are likely but will not adversely affect or be absorbed through exposed skin.
- The atmosphere contains hazardous substances at concentrations which can be adequately controlled using an available air-purifying respirator and cartridge/canister.
- IDLH conditions are not present.
- The atmosphere contains between 19.5 and 23.5% oxygen.

In accordance with 29 CFR 1910.134(d)(3)(iii)(B)(2), a cartridge/canister change schedule has been determined. Cartridges and canisters used with air-purifying respirators on this site are replaced when any of the following occurs:

- a NIOSH-approved end of service life indicator (ESLI) is activated,
- the service life identified in this HASP has passed (see JHAs for service life determinations)
- inhalation is restricted

Use of Level D Protection

Employees use Level D protection during tasks that have the following characteristics:

- The atmosphere contains no known or suspected hazardous substances at concentrations that meet or exceed the published exposure limit.
- Contact with hazardous levels of any chemicals through splashes, immersion, or by other means will not occur.
- There is no potential for unexpected inhalation or contact with hazardous levels of any chemical

8. 3. Use of PPE

Site-specific PPE ensembles and materials are identified below. These ensembles are consistent with Appendix B of 29 CFR 1910.120. PPE is used in accordance with manufacturers' recommendations.

| Level B Equipment | |
|---|---------------------------------------|
| Item | Model or description |
| Hooded chemical resistant coveralls | Kappler CPF3 or similar |
| Gloves, outer, chemical-resistant | North 17 mil butyl or similar |
| Gloves, inner, chemical-resistant | 4 mil surgical type nitrile |
| Hard hat | Type 2A or similar |
| Face shield | Polycarbonate |
| SCBA | Scott "Air Pack" w/ 30 minute bottles |
| Level C Equipment | |
| Item | Model or description |
| Hooded chemical resistant coveralls | coated Tyvek QC type or similar |
| Gloves, outer, chemical-resistant | North 17 mil butyl or similar |
| Gloves, inner, chemical-resistant | 4 mil surgical type nitrile |
| Hard hat | Type 2A or similar |
| Face shield | Polycarbonate |
| Half-face air purifying | Scott XCEL with 7422-SDI cartridges |
| Level D Equipment | |
| Item | Model or description |
| Coveralls/Standard Work Clothes | coated Tyvek QC type coverall |
| Boots/shoes, chemical-resistant steel toe and shank | Employee owned |
| Boots, outer, chemical-resistant (disposable) | Butyl/Nitrile |
| Safety glasses | |
| Hard hat | Type 2A or similar |
| Face shield | Polycarbonate |
| Gloves | Leather |

Criteria for PPE Upgrades and Downgrades

The tables below show the action level(s) and/or conditions that result in a PPE upgrade or downgrade at this site. These upgrades and downgrades are required for any employee wearing the level of PPE described below. Since PPE is primarily used as a barrier to hazardous substance exposure, airborne concentrations are monitored routinely, in accordance with Chapter 7, Exposure Monitoring

| PPE Upgrades | | |
|---------------------|--|-------------------------------------|
| Initial PPE | Upgrade Action Level/Conditions | PPE Modifications |
| Level B | None | |
| Level C | Airborne Levels in excess of 5xTLV of most toxic component | SCBA/Chemically Protective Clothing |
| Level D | Airborne Levels in excess of 1/2 the TLV of the most toxic component | 1/2 face APR |

| PPE Downgrades | | |
|-----------------------|---|--------------------------|
| Initial PPE | Downgrade Action Level/Conditions | PPE Modifications |
| Level B | Airborne levels less than 5x the TLV for the most toxic component | 1/2 face APR |
| Level C | Airborne levels less than 1/2 TLV of most toxic component | No respirator required |

Neil Frumkin, Brian Banuelos and/or Daniel Diaz have the authority to upgrade or downgrade PPE in a timely manner to respond to changing site conditions and to protect employee health and safety. Routine evaluation of the effectiveness of the PPE program is conducted as identified in Section 6.7 below.

Procedures for Determining Work Duration

Neil Frumkin identifies task-specific work duration based on the following:

- Physiological requirements of the task
- PPE level for the task
- Ambient temperature and humidity
- Respiratory Protection Capacity
- Chemical Protective Clothing Capacity
- Acclimatization of work force

Employees are informed about task-specific work duration by the SSHO, during initial training and whenever a change is necessary. Work duration is consistent with the requirements outlined in Chapter 8, Thermal Stress and the respiratory capacity for the assigned PPE. Work duration is continuously re-evaluated in response to changes in working conditions.

8. 4. Training

Employees receive general training regarding proper selection, use and inspection of PPE during initial HAZWOPER training or equivalent as well as subsequent refresher training. Site-specific PPE requirements, including task-specific PPE, ensemble components, cartridge/canister service times, and inspection and maintenance procedures are communicated as identified in Chapter 4, Training.

8. 5. Respiratory Protection

The type of respiratory protection used on site are identified above. Respiratory protection is selected, fitted, used, stored and maintained in accordance with the Enviroserv Respiratory Protection Program. A copy of the Respiratory Protection Program is maintained in the command area. The written Respiratory Protection is consistent with the other requirements of this HASP.

For this project, APR cartridges will be replaced daily until information is available from the manufacturer or other source to justify a less conservative change-out schedule.

8. 6. Hearing Conservation.

Employees must use hearing protection when noise exposures equal or exceed an 8-hour time-weighted average sound level of 85 dBA. Where noise exposure meets or exceeds this level, noise is listed as a physical hazard in the JHA for the tasks/operation, and hearing protection is included as one of the control measures (PPE). Employees required to use hearing protection participate in a Hearing Conservation Program. Currently, no site tasks have noise exposure that equals or exceeds the 85 dBA limit.

8. 7. PPE Maintenance & Storage

PPE is used, cleaned, inspected, stored and replaced according to Enviroserv corporate policy. Defective or damaged equipment is not used and is reported to Neil Frumkin so that the equipment can be repaired or discarded. Spent and disposable PPE is discarded in the manner specified in Chapter 10, Decontamination. After decontamination, reusable PPE is properly stored, according to the manufacturers' recommendations.

8. 8. Evaluation of PPE Program

Evaluation of the effectiveness of site PPE selections occurs throughout site activities in response employee exposure monitoring results and employee feedback. Neil Frumkin, Brian Banuelos and/or Daniel Diaz are responsible for modifying initially selected PPE. Affected employees are immediately informed about these modifications and are provided with additional training if necessary. The JHAs in Chapter 2 of the HASP are also updated as needed to reflect current information about job hazards and selected controls.

Section 9 - Exposure Monitoring

This chapter of the HASP describes how employee exposures to hazardous substances are monitored. This chapter provides site-specific information about:

- air monitoring procedures,
- equipment calibration and maintenance, and
- the handling and management of monitoring data.

Neil Frumkin, Brian Banuelos, and/or Daniel Diaz are responsible for implementing site exposure monitoring procedures.

Brian Banuelos and Neil Frumkin are qualified to use the air monitoring instruments at this site and to interpret monitoring results.

9. 1. Air Monitoring

Employee exposures to airborne hazardous substances will be evaluated during site operations to ensure that exposure controls are effectively chosen and modified as needed on a timely basis. The approach to air monitoring is consistent with OSHA requirements in HAZWOPER and includes:

- initial monitoring prior to the beginning of site activities to identify conditions that may cause death or serious harm and to permit preliminary selection of site controls,
- personal monitoring after site activities begin so that employee exposures are quantified and fully characterized, and
- periodic monitoring throughout site operations when conditions and employee exposures may change rapidly.

Air monitoring for this project is conducted using direct-reading instruments only, due to the limited duration of the project. Consistent with HAZWOPER, personal air measurements will be made in the breathing zones of employees expected to have the highest exposure during the task or operation being evaluated. If exposures for these employees exceed the exposure limits, additional samples are collected in the breathing zones of all employees likely to have similar exposures. Full-shift and short-term samples will be collected, providing quantitative results that can be compared to OSHA Permissible Exposure Limits and other published exposure limits

9. 2. Task-Specific Air Monitoring Procedures

9. 3. Equipment Calibration and Maintenance

The table below lists the specific monitoring instruments and the calibration procedures used on this site. Instruments are calibrated and maintained according to the manufacturers' recommendations. Copies of the manufacturers' recommendations and instrument calibration and maintenance records are maintained in the Command Area.

| Instrument | Serial # | Type of Calibration | Frequency |
|---------------------------------|-----------------|----------------------------|---|
| Real-Time Aerosol Monitor | TBD | Fresh Air Zero | Daily, before use |
| Real-Time Aerosol Monitor | TBD | Factory Calibration | According to Manufacturer specification |
| Electro-chemical Cyanide Sensor | TBD | Fresh Air Zero | Daily, before use |
| Electro-chemical Cyanide Sensor | TBD | Factory Calibration | According to Manufacturer specification |
| Colorimetric Tubes | NA | None Required | NA |
| Qrae 4-gas meter | TBD | Fresh Air Zero | Daily before use |
| Qrae 4-gas meter | TBD | Factory Calibration | According to Manufacturer specification |

9. 4. Handling and Maintenance of Monitoring Data

All instruments used on-site will be logged in the "Instrument Data Sheet". Instrument readings will be documented on the "Instrument Reading Log Form". All records will be maintained in the Control Area.

9. 5. Noise Monitoring

As indicated in the JHAs for this site, employees may be exposed to sound levels that meet or exceed 85 dBA while conducting certain tasks/operations. Consequently, noise monitoring is conducted in accordance with the Hearing Conservation Program, located in/at Command Area.

Section 10 - Thermal Stress

This section of the HASP describes how the site-specific environmental conditions (temperature, humidity, air movement), work loads, and PPE may expose workers to hazards resulting in injury or illness related to heat stress.

This Heat Stress Prevention Program outlines exposure controls to protect workers working in hot environments. Neil Frumkin is responsible for implementing this program.

10. 1. Implementation Criteria

The Heat Stress Prevention Program is implemented when the work area temperature rises above 80oF unadjusted temperature. Throughout each work shift, air temperatures in the work area are measured, the adjusted temperature is calculated, and the values are recorded Command Area.

10. 2. Prevention Strategies

Work practices and exposure controls are used to reduce the risk of elevating a worker's core body temperature. These work practices and exposure controls include the following:

- monitoring for signs of heat stress
- providing shaded rest areas protected from radiant heat
- using a liquid replacement program

Monitoring

Workers monitor each other's actions, speech, and appearance for signs and symptoms of heat-related illnesses including heat exhaustion and heat stroke. Physical signs and symptoms of heat exhaustion include headache, nausea, vertigo, weakness, thirst, and giddiness. Heat exhaustion may progress to heat stroke if a worker is unable to cool and re-hydrate their body. The primary signs and symptoms of heat stroke are confusion; irrational behavior; loss of consciousness; convulsions; a lack of sweating (usually); hot, dry skin; and an abnormally high body temperature. Workers should be aware of the key differences between the signs and symptoms of heat stroke and those of heat exhaustion, such as the lack of sweating, the color of the skin (red), and the rise in body temperature. Heat stroke is a medical emergency that requires immediate medical attention. Physical signs and symptoms of heat stress are discussed with workers As needed, based on conditions and reviewed as necessary.

Rest Areas

Rest areas that are shaded and protected from radiant heat are located in the Office Area. Rest areas are equipped with cool (50°- 60°F) liquids.

Liquid Replacement Program

Since dehydration is a primary cause of heat illness, workers on this site follow a regimen for liquid consumption detailed below.

| Work Area Temperature Range | Work Period Between Drinks | Minimum Quantity (Ounces) | Liquid Type |
|-----------------------------|----------------------------|---------------------------|-------------|
| 80 – 90 | 60 minutes | 2 cups(1 pint) | Water |

10. 3. Medical Management

If a worker exhibits signs or symptoms of heat exhaustion or heat stroke, the worker will be removed from area, hydrated and allowed to rest. If symptoms persist, medical help will be sought immediately

10. 4. Training

Workers receive general training regarding thermal stress-related injuries and illnesses during initial HAZWOPER training and subsequent refresher training. The site-specific program and procedures are described in Chapter 4, Training.

Section 11 - Spill Containment Program

This chapter of the Health and Safety Plan describes the potential for hazardous substance spills at this site and procedures for controlling and containing such spills. The purpose of this chapter of the Plan is to ensure that spill containment planning is conducted and appropriate control measures are established.

The spill containment program is consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii) and addresses the following site-specific information:

- potential hazardous substance spills and available controls
- initial notification and response
- spill evaluation and response
- post-spill evaluation

11. 1. Potential Spills and Available Controls

An evaluation was conducted to determine the potential for hazardous substance spills at this site. That evaluation indicates that a hazardous substance spill could potentially occur. Therefore, the following site-specific spill containment program has been implemented to address spill containment planning, equipment, and procedures. Site personnel are trained in the contents of this spill containment program and their roles and responsibilities during spill response operations.

Wherever spills, leaks, or ruptures can occur, this site keeps suitable quantities of proper absorbent and US Department of Transportation-specified salvage drums/containers. In addition, all areas subject to potential spills are diked or a means to adequately dike these areas in the event of a spill is available so that the entire volume of the hazardous substance being spilled can be contained and isolated. Where hazardous materials are not currently stored within secondary containment, sandbags and plastic sheeting will be used to create berms and secondary containment. In addition, all hoses and couplings will be mechanically fastened closed (where possible) and all coupling will be wrapped with appropriate absorbent materials to prevent an accidental release.

11. 2. Initial Spill Notification and Response

Any worker who discovers a hazardous substance spill will immediately notify Neil Frumkin. The worker will, to his/her best ability, report the hazardous substance involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, and any associated injuries. The site Emergency Response Plan will immediately be implemented if an emergency release has occurred.

11. 3. Spill Evaluation and Response

Neil Frumkin is responsible for evaluating spills and determining the appropriate response. The procedures of this chapter of the HASP will be implemented when the spill is determined to require emergency precautions and action. If necessary to protect nearby community members, notification of the appropriate authorities will be made.

For non-emergency, incidental spills, personnel will receive instructions in a pre-cleanup meeting as to spill conditions, PPE, response activities, decontamination, and waste handling. The following are general measures that response/ cleanup personnel take when responding to a spill:

- Hazardous substance and contaminated soils, control/absorbent media, drums, containers, and other contaminated materials will be properly stored and labeled in order to minimize the potential for a hazardous spill.
- When a spill occurs, only those persons involved in overseeing or performing spill containment operations will be allowed within the designated hazard areas. If necessary, the area will be roped, ribboned or otherwise blocked off. Unauthorized personnel are kept clear of the spill area.

- Appropriate PPE, as specified during the pre-cleanup meeting, will be donned before entering the spill area.
- Appropriate spill control measures will be specified in the pre-cleanup meeting and applied during spill response.
- Whenever possible without endangerment of personnel, the spill will be stopped at the source or as close to the source as possible.
- Ignition points will be removed if fire or explosion hazards exist.
- Surrounding reactive materials will be removed.
- Drains or drainage in the spill area will be blocked or surrounded by berms to exclude the spilled waste and any materials applied to it.
- Small spills or leaks from a drum, tank, or pipe will require evacuation of at least 50 feet in all directions to allow cleanup and to prevent employee exposure. For small spills, sorbent materials such as sand, sawdust, or commercial sorbents are placed directly on the waste to prevent further spreading and aid in recovery.
- If any spill is large and/or continuing, an initial isolation area of at least 100 feet in all directions will be used. Large spills will be diked at the leading edge of the spill. Berms of earthen or sorbent material will be constructed downstream of the leading edge of the spill to contain it. Where feasible, pumps will be utilized to transfer the liquid to appropriate containers.
- Spill area will be sprayed with appropriate foam where the possibility of volatile emissions exists.
- If the spill results in the formation of a toxic vapor cloud, from vaporization, or reaction with surrounding materials or by the outbreak of fire, further evacuation may be required.
- To dispose of spill waste, all contaminated sorbents, liquid waste, or earthen material will be cleaned up and placed in small quantities (<300 pounds) in approved drums for proper storage or disposal as hazardous waste.

11. 4. Post-Spill Evaluation

A written spill response report is prepared at the conclusion of clean-up operations. The report includes, at a minimum, the following information:

- date of spill incident
- cause of incident
- spill response actions
- any outside agencies involved, including their incident reports
- lessons learned or suggested improvements

The spill area is inspected to ensure the area has been satisfactorily cleaned. The use of soil, water, and air sampling is utilized in this determination as necessary. The root cause of the spill is examined and corrective steps taken to ensure the engineering and control measures in place have performed as required. If alternative precautions or measures are needed, they are made available and implemented. All durable equipment placed into use during cleanup activities is decontaminated as specified in the Decontamination chapter of this HASP for future utilization.

Section 12 - Decontamination Program

The decontamination section of the Health and Safety Plan describes how personnel and equipment are decontaminated when they leave the Exclusion Zone. The site decontamination procedures are designed to achieve an orderly, controlled removal or neutralization of contaminants that may accumulate on personnel or equipment. These procedures minimize worker contact with contaminants and protect against the transfer of contaminants to clean areas of the site and off-site. They also extend the useful life of PPE by reducing the amount of time that contaminants contact and can permeate PPE surfaces. The decontamination procedures described below are designed to meet the requirements of 1910.120(k).

Emergency decontamination procedures are detailed in the Emergency Response section of this HASP.

Neil Frumkin oversees implementation of site decontamination procedures and is responsible for ensuring their effectiveness.

12. 1. Site Decontamination Facilities

Decontamination on this site is conducted in the contamination reduction zone (CRZ). The CRZ acts as a buffer between the hot-zone and the support zone. The location and design of decontamination stations minimize the spread of contamination beyond these stations.

12. 2. Decontamination Procedures for Personnel and PPE

Decontamination procedures on this site are designed for the level of PPE used. Site-specific procedures for personnel and PPE decontamination minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities. Based on the nature of the hazards and duration of work, showers and change rooms are not necessary and are not provided for workers.

The following are general decontamination procedures established and implemented at this site. More specific procedures for personnel and PPE decontamination are provided below.

- Decontamination is required for all workers exiting a contaminated area. Personnel may re-enter the Support Zone only after undergoing the decontamination procedures described below in the next section.
- Protective clothing is decontaminated, cleaned, laundered, maintained and/or replaced as needed to ensure effectiveness.
- PPE used at this site that requires maintenance or parts replacement is decontaminated prior to repairs or
- PPE used at this site is decontaminated or prepared for disposal on the premises. Personnel who handle contaminated equipment have been trained in the proper means to do so to avoid hazardous exposure.
- The site requires and trains workers that if their permeable clothing is splashed or becomes wetted with a hazardous substance, they will immediately exit the work zone, perform applicable decontamination procedures shower, and change into uncontaminated clothing.
- Procedures for disposal of decontamination waste meet applicable local, State, and Federal regulations

Decontamination stations will be set up at each exit from the control zone. These will consist of appropriate changing facilities that will allow workers to remove potentially contaminated clothing and protective equipment. Appropriate waste containers will be available for disposable equipment. Equipment that will be re-used will be immediately cleaned, or placed in an appropriate storage container for later cleaning.

12. 3. Decontamination Procedures for Equipment

All tools, equipment, and machinery from the Exclusion Zone or CRZ are decontaminated in the CRZ prior to removal to the Support Zone. Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities.

12. 4. Monitoring the Effectiveness of Decontamination Procedures

Visual examination is used to evaluate the effectiveness of decontamination procedures, in compliance with 29 CFR 1910.120(k)(2)(iv). Visual examination is used to ensure that procedures are implemented as described and that they appear to control the spread of contaminants under changing site conditions. Visual examination is also used to inspect for signs of residual contamination or for contaminant permeation of PPE. Air sampling is used to verify the effectiveness of decontamination. Air samples are taken in the clean zone to ensure that airborne contaminants have not spread to clean areas of the site. The type and frequency of air sampling used to ensure the effectiveness of decontamination procedures are detailed in the Exposure Monitoring section of this HASP.

Results of the inspections of decontamination procedures and documentation of any action taken to correct deficiencies are recorded and stored at Command Area. Personnel who work in contaminated areas of the site, either the Contamination Reduction Zone (CRZ) or the Exclusion Zone, are trained in the principles and practices of decontamination described in this section of the HASP and in related SOPs. If site procedures are changed as a result of inspection and monitoring, all affected employees are notified of these changes.

Section 13 - Emergency Response/Contingency Plan

13. 1. Medical Emergency

Survey the situation:

- Do not enter an area that may jeopardize your safety.
- Establish the patient's level of consciousness.
- Call for help.
- Contact Emergency Medical Services and inform them of patient's condition.

Primary Assessment (patient unconscious)

- Arousal
- Airway
- Breathing
- Circulation
- Only trained personnel should perform CPR or First Aid.

Secondary Assessment (patient conscious)

- Check for bleeding: Control with direct pressure.
- Do not move patient (unless location is not secure).
- Monitor vital signs.
- Provide First Aid to the level of your training.
- Contact the PM and HSR as soon as possible.

13. 2. Fire Emergency

Evacuate the area.

- Notify the Emergency Services.
- Extinguish small fires with an all-purpose extinguisher.
- Contact the PM and HSR.

13. 3. Spill/Release

Prevent problems by documenting the location of underground lines (e.g., product, sewer, telephone) before starting site work. If you drill through a line or tank or another leak occurs, document the spill/release in writing. Include dates, times, actions taken, agreements reached and names of people involved. In the event of a spill/release, follow this plan.

- Wear appropriate PPE; stay upwind of the spill/release.
- Turn off equipment and other sources of ignition.
- Turn off pumps and shut valves to stop the flow/leak.
- Plug the leak or collect drippings in a bucket, when possible.
- Place sorbent pads to collect product, if possible.
- Call Fire Department immediately if fire emergency develops.
- Do not transport or approve transportation of contaminated soils or product until proper manifests have been completed and approved. Be aware that soils/product may meet criteria for hazardous waste.

Notifications - a spill/release requires completion of a preliminary incident report (PIR) and Class III notification. The generator is under obligation to report to the proper government agencies. If the spill extends into waterways, the Coast Guard and the National Response Center (1-800-424-8802) must be notified immediately.

Section 14 - Confined Spaces Program (Not Applicable)

This section of the Health and Safety Plan represents the site-specific written confined space entry program. The purpose of this section of the Health and Safety Plan is to identify all permit-required confined spaces (permit spaces) on site and to describe the procedures that have been developed and implemented to ensure worker safety and health in permit-required confined spaces. In compliance with the requirements of 29 CFR 1910.120(b)(4)(ii)(I), this section of the HASP is included even when no permit-required confined spaces are present on site in order to indicate that a site-specific evaluation for permit spaces has been made.

This permit-required confined space program (permit space program) includes the elements specified in 29 CFR 1910.146 and provides the following site-specific information:

- identification and evaluation of permit spaces
- measures to prevent unauthorized entry
- entry permit system
- entry equipment and personal protective equipment
- entry procedures
- permit spaces training
- rescue and emergency procedures
- employee participation

The person with overall responsibility for the permit space program is Neil Frumkin. The permit space program is modified to reflect changing site conditions or work operations. This program is reviewed if any of the following

- occurrence of unauthorized entry of a permit space
- discovery of a permit space hazard not covered by the permit
- detection of a condition prohibited by the permit
- occurrence of an injury or near-miss during entry
- change in the use or configuration of a confined space
- employee complaints of permit space program

Additionally, an annual review of all entries performed during the previous 12 month period is conducted. If no entries were made into a permit space, then no annual review is performed.

14. 1. Identification and Evaluation of Permit Spaces

This site has been carefully evaluated by Neil Frumkin on 8/6/08 and identified that confined space entries are not necessary.

Section 15 - Hotwork

This Chapter of the Health and Safety Plan address site welding and cutting operations. The purpose of this chapter is to establish procedures that protect workers from safety and health hazards associated with these operations

The hot work section of this HASP is consistent with the requirements of 29 CFR 1910.252 (a), 8 CCR 4848 as well as 19 CCR 1.09(b) and addresses the following site specific information:

- Designated areas and other hot-work locations
- Hot work permits
- Fire watch
- Hot work SOPs

15. 1. Designated Areas and Other Hot Work Locations

Whenever possible, welding and cutting on this site will only be performed in designated areas that have been made fire-safe. The designated areas on this site are:

Cutting of welding in undesignated areas will only be done after a hot work permit has been obtained, as described below. Cutting and welding are prohibited at all times in the following locations

| Prohibited Location | Reason |
|--|---------------------|
| Within 3 feet of flammable liquid containers or compressed gas cylinders | Possibility of fire |
| | |

15. 2. Hot Work Permit

A written hot work authorization is required and issued prior to any welding or cutting operation outside the designated areas. The hot work permit is authorized only after the area is inspected by the Site Safety Officer

The hot work permit will be conspicuously posted in the area where welding and cutting is being performed. On the permit, the site safety officer will note any necessary precautions for the specific welding or cutting operation, including (but not limited to) fire watch, guarding and fire extinguishing equipment. A blank permit is included at the end of this section.

15. 3. Fire Watch

Fire watch is required by the hot work permit when any of the following conditions exist:

- Potential for development of other than a minor fire
- Appreciable combustible material, in building construction or contents, within 35 feet
- Appreciable quantities of combustibles greater than 35 feet away, but easily combustible
- Wall or floor openings within 35 feet that expose combustible materials in adjacent area (including concealed spaces in walls or floors)
- Combustible materials adjacent to the opposite side of metal partitions, walls, ceilings, roofs. Etc. that are likely to be ignited by heat conduction or radiation

Fire watchers will be equipped with fire extinguishers, as indicated on the permit. They will be trained in the use, operation and limitations of fire extinguishing equipment, as well as appropriate emergency procedures including alerting procedures. If a fire is discovered in an area under watch, that fire will be

extinguished if appropriate, based on the size and location of the fire, or otherwise sound an alarm. Fire watch will be maintained for not less than ½ hour after the completion of the welding and cutting to detect and extinguish possible smoldering fires.

15. 4. Hot Work SOPs

The following standard operation procedures (SOPs) will be followed for all hot work on this site:

- Cutting and welding will only be performed by suitably trained workers
- Sub-contractors who may perform hot work or who work in proximity to hot work operations will be advised about the location of flammable materials or other hazardous conditions
- Combustibles will be removed from hot work areas. Where materials cannot be removed they will be protected.
- Openings or cracks in flooring or walls, open doorways, and open or broken windows are effectively closed or precautions taken to protect readily combustible material onto which sparks or slag may drop.
- Suitable fire extinguishing equipment is maintained and ready for use at all welding or cutting operations.
- Combustible materials are cleared within a minimum radius of 35 feet around welding or cutting operations or, where it is not possible to clear the area; the combustibles are protected with appropriate covers or shields.
- Where floors or surrounding ground are wetted, arc welding or cutting equipment operators wear appropriate PPE in accordance with 29 CFR 1910 Subpart I (Personal Protective Equipment).
- Neil Frumkin and/or Brian Banuelos have the authority and responsibility to interrupt other site operations that might expose combustibles to ignition during cutting and welding.
- Hot work is not performed on drums, barrels, tanks, or other containers until they have been thoroughly cleaned and it is determined that hot work operations on the vessel will not produce flammable or toxic vapors.
- Pipelines or connections to drums or other containers are disconnected or blanked prior to hot work.
- All hollow spaces, cavities, and containers are thoroughly vented, and preferably purged with inert gas, to allow escape of air or gases prior to any preheating, cutting, or welding.
- Confined spaces: where arc welding is performed, all electrodes are removed from holders, the holders are carefully located to prevent accidental contact, and the power source to the machine is disconnected when work is suspended for any substantial period of time, such as during lunch hour or overnight.
- Confined spaces: torch valves shall be closed and the gas supply to the torch positively shut off at some point outside the confined space on all gas welding or cutting equipment when the torch is not to be used for a substantial period of time, such as during lunch hour or overnight

Section 16 - Hazardous Energy Control Program

This section of the Health and Safety Plan represents the site-specific hazardous energy control program. The purpose of this section of the Health and Safety Plan is to identify all machine and equipment repair and maintenance activities that require LOTO procedures under 29 CFR 1910.147.

Lab Packing, Hazard Categorization, Chemical Bulking and Staging/Transportation tasks do not require a LOTO program or procedures. Based on the apparent state of disrepair of the electrical system, all areas where work will be conducted need to be de-energized prior to beginning that phase of work. It may prove easier to de-energize the entire site and rely on temporary power.

An outside contractor will be brought into de-energize, lockout and test as appropriate to ensure that Enviroserv personnel are not exposed to electrical hazards.

Section 17 - Forms and Documents

- Daily Sign-in Log
- Hot Work Permit

17. 1. Hot Work Permit (available on site)

To be completed for all hot work outside of designated areas

(Must be posted conspicuously where hot work is being performed)

Part 1 Information

Issue Date:

Work Date (Start):

Finish (End Permit):

Performed by:

Work Area:

Object to be worked on:

Part 2 – Pre-Approvals

Indicate if working on or in:

- 1 – Metal partition, wall, ceiling covered by combustible material - Y/ N
- 2 – Pipes, in contact with combustible materials- Y/ N
- 3 – Explosive area? - Y/ N

If any of these conditions exist a permit will not be issued without review and approval by Site Project Manager or Senior Company Official (signature below)

Part 3 – Required Conditions (Circle all that apply)

| Protective Actions | Protective Equipment |
|---|---------------------------------|
| Task Specific Risk Assessment | Goggles/Visor/Welding Screen |
| Fire or Spark Barrier | Apron/Fire Proof Clothing |
| Cover Hot Surfaces | Welding Gloves/Gauntlets/ Other |
| Remove Fire Hazards | Rubber Boots Kneepads |
| Erect Screen or Barrier | Ear Protection: Muffs/ Plugs |
| Restrict Access | Respiratory Protection: |
| Wet the Ground | APR – ½ / FF, Cartridge: |
| Ensure Adequate Ventilation | SCBA |
| Provide Adequate job Supports | Local Exhaust Ventilation |
| Cover Exposed drain/floor or wall cracks | Extinguisher/Fire Blanket |
| Fire Watch (Job Duration plus 30 minutes) | Combustible Gas Meter |

Additional Permits required:

Other Precautions:

(Permit will not be issued until all conditions indicated above are met)

Signatures

| | | | |
|---------------------------------------|--|-------|--|
| Requesting employee | | Date | |
| Safety Officer Approval: | | Date | |
| Site Director Approval (if required): | | Date: | |